

AMENDMENTS TO THE DRAWINGS

The attached sheet of drawings includes changes to Figures 2 and 3. This sheet, which includes Figures 2 and 3, replaces the original sheet including Figures 2 and 3.

Attachment: Replacement Sheets

REMARKS

Prior to entry of the instant amendment, claims 11-20 are pending in the subject application, of which claims 12, 13, and 17-20 are withdrawn. By the instant amendment, claims 11, 15, and 16 are amended, and claim 21 is added. No new matter is added. Claims 1, 16, and 21 are independent.

Applicants note with appreciation the Examiner's acknowledgement that certified copies of all priority documents have been received by the U.S.P.T.O.

Applicants also appreciate the Examiner's indication that the Information Disclosure Statement filed on July 28, 2006, has been considered.

Claims 11-21 are presented to the Examiner for further or initial prosecution on the merits. Favorable reconsideration of this application, in light of the preceding amendments and following remarks, is respectfully requested.

Election/Restriction Requirement

Applicant acknowledges the election of Group III, of which *at least* claims 11 and 14-16 read on, and claims 12, 13, and 17-20 have been withdrawn by the Examiner as being directed to a non-elected invention. Applicant respectfully reserves the right to file a divisional application(s) directed to the non-elected invention at a later time.

Objections to the Specification

1) The Examiner objected to the Abstract due to informalities. By this amendment, Applicant has submitted a revised Abstract, taking into consideration the Examiner's comments, to obviate the objections. Withdrawal of the objection is respectfully requested.

2) The Examiner objected to the specification as the section headings are not correct. By this amendment, Applicant has amended the section headings to

conform to U.S. patent practice. Withdrawal of the objection is respectfully requested.

In regard to the text in the disclosure being unreadable, Applicant has submitted a substitute specification on July 28, 2006 removing the informalities as mentioned by the Examiner and to conform to U.S. patent practice. Thus, Applicant believes no further amendments at this time are necessary.

Objections to the Drawings

1) The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5). In particular, the reference characters "15", "21", "24", and "27" are not shown in the drawings. Applicants have attached hereto Replacement Sheets for FIGS. 2 and 3, depicting elements "15", "21", "24", and "27".

2) The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4). In particular, the reference character "1" has been designated to represent both a sheet to be cut (FIGS. 1A and 1B) and a cutting head area (FIG. 3); and the reference character "14" has been designated to represent both a cover sheet and a cutting blade.

In regard to reference character "1", FIG. 3 has been amended to remove the reference character "1" in the cutting head area.

In regard to reference character "14", the specification has been amended to indicate that the reference character "14" is a cutting blade.

Reconsideration and withdrawal of the objections are respectfully requested.

Claim Rejections - 35 U.S.C. § 112

Claim 15 is rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Applicant respectfully traverses this rejection for the reasons discussed below.

Applicant respectfully submits that claim 15 has been amended, taking into consideration the Examiner's suggestions, to obviate the rejection. Reconsideration and withdrawal of the rejection under 35 U.S.C. § 112, second paragraph, are respectfully requested.

Claim Rejections - 35 U.S.C. § 103

Claims 11 and 14-16 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 3,682,750 ("Gerber") in view of U.S. Patent No. 5,277,092 ("Kinta")¹. Applicant respectfully traverses this rejection for the reasons discussed below.

Initially, Applicant notes that the Gerber reference (**USP 3,682,750**), which has been used in the current rejections, has not been cited in a PTO-892 by the Examiner. Applicant respectfully requests in the next communication for the Examiner to properly cite the Gerber reference.

In order to establish a *prima facie* case of obviousness under 35 U.S.C. § 103(a), all of the claim limitations of the rejected claims must be described or suggested by the cited document(s).² Applicant respectfully submits that the cited documents do not meet this criterion, because no modification and/or combination of the Gerber and the Kinta references will describe or suggest all of the claim

¹ U.S. Patent No. 5,277,092 has the **same** assignee as this application.

² See *In Re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). See also MPEP § 2143.03.

limitations of rejected claims 11 and 14-16, and therefore, a *prima facie* case of obviousness has not been established.

For example, claim 11 recites a method for adjusting suction of a cutting machine when cutting is performed with the cutting machine in which a sheet material is sucked and held on a table, comprising, *inter alia*:

as cutting progresses, confirming an extent of leakage from an already-cut portion, and adjusting a suction state without any time delay so as to compensate for reduction, due to the leakage, in a holding force on the sheet material on the table, and in consideration of a covered state with the sealing sheet. (*emphasis added*)

In particular, Applicant respectfully submits that the Gerber and the Kinta references do not disclose or suggest of “adjusting a suction state without any time delay,” as taught by claim 11.

In the outstanding Office Action, the Examiner admits that the Gerber reference fails to disclose or suggest “*confirming an extent of leakage from an already-cut portion, and adjusting a suction state so as to compensate for reduction, due to the leakage, in a holding force on the sheet material on the table, and in consideration of a covered state with the sealing sheet.*” Yet the Examiner attempts to overcome the admitted deficiency of Gerber by arguing that the Kinta reference discloses the missing features. Applicant respectfully disagrees.

Col. 3, lines 49-54 of the Kinta reference discloses:

In response to the pressure signal output from the first and second pressure sensors D1 and D2 provided for each filtering box B, the blower control circuit 9 properly controls operations of these blowers 61 through 63....

Moreover, col. 3, line 55 – col. 4, line 6 of the Kinta reference discloses:

...When a pressure setter 91 establishes an optional pressure value, the pressure setter 91 outputs a signal corresponding to the entered pressure value. Next, a comparative arithmetic operation unit 92 makes a comparison between the output signal and the signal from the first pressure sensor D1. If any difference

were present between both output signals, then, the comparative arithmetic operation unit 92 outputs a difference signal. On receipt of the difference signal, a frequency controller 93 varies frequency signal in correspondence with the difference signal, and then controls the number of the rotation of each blower motor via the inverter controller 8...

In other words, although the Kinta reference discloses detecting a change of suction pressure during cutting by a sensor or the like and, thus, subsequently control the pressure, it requires some amount of time to detect the pressure change, i.e., a “time delay.” One skilled in the art would appreciate that a “time delay” may create a phenomenon called “thrashing” in which it is caused by pressure being increased and reduced in alternation in the same region that is subjected to suction after division when there is a **time delay** when controlling the suction force. Further, energy would be wasted when excessive suction force (as taught by Kinta) is always generated.

In contrast, the claimed invention discloses, taking into consideration of the constantly varying position of the cutting blade while during the already-cut portion at that time, and the covered stated with the sealing sheet determined by the position of the cutting blade, the control of the suction may be carried out so that pressure may be brought into a desired level at the time of cutting. As a result, the suction pressure can be adjusted without a control delay (i.e., time delay), in order to suppress the fluctuation in degree of compression of the sheet material.

Accordingly, Applicant respectfully submits that the Kinta reference fails to disclose or suggest, “as cutting progresses, confirming an extent of leakage from an already-cut portion, and adjusting a suction state without any time delay so as to compensate for reduction,” as recited in amended claim 11.

Since the rejection fails to disclose or suggest each and every element of the rejected claims, Applicant respectfully submits that no *prima facie* case of obviousness has been established with respect to claim 11.

Further, in order to establish a *prima facie* case of obviousness, the Examiner must establish that it would have been obvious for one of ordinary skill to have combined the teachings of the cited documents.³ One way to establish this would be to show “some articulated reasoning with some rationale underpinning to support the legal conclusion of obviousness” and “identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does.”⁴ Furthermore, the Examiner must make “*explicit*” this rationale of “the apparent reason to combine the known elements in the fashion claimed,” including a detailed explanation of “the effects of demands known to the design community or present in the marketplace” and “the background knowledge possessed by a person having ordinary skill in the art.”⁵

It is respectfully submitted that the Examiner has not met these criteria. For example, the Examiner asserts that:

it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the method of Gerber to include sensing means to detect pressure drops as a result of cutting and a feedback circuit to adjust the blower speed to maintain the holding force in view of the teachings of Kinta.⁶

However, it is respectfully submitted that the above statement is merely conclusory and do not comprise an “*explicit rationale*” as required by *KSR Int’l*. Therefore, because the Examiner has not provided an explicit analysis as required by *KSR Int’l*, a *prima facie* case of obviousness has not been established.

³ See *KSR Int’l Co. v. Teleflex, Inc.*, 550 U.S. at 398, 82 USPQ2d at 1396 (2007).

⁴ *Id.*

⁵ *Id.*

⁶ See Office action mailed October 22, 2008, page 7, paragraph 16.

In view of the above, Applicant respectfully submits that the Gerber and the Kinta references, individually or in combination, fail to teach or suggest each and every element of claim 11, and therefore, claim 11 is allowable over the cited prior art. Claims 14-17 are dependent from claim 11 and, therefore, also allowable. Accordingly, Applicant respectfully requests that the rejection under 35 U.S.C. § 103(a) be reconsidered and withdrawn.

New Claim

By the instant amendment, claim 21 is added. Claim 21 is independent, and corresponds to independent claim 16 without the “means-plus-function” language. No new matter is added. Applicant respectfully submits that claim 21 is allowable over the cited prior art for at least the reasons set forth above. Accordingly, entry and examination of claim 21, and an indication of allowance thereof, is respectfully requested.

CONCLUSION

In view of the above remarks and amendments, Applicant respectfully submits that each of the pending objections and rejections has been addressed and overcome, placing the present application in condition for allowance. A notice to that effect is respectfully requested. Further, the above remarks demonstrate the failings of the outstanding rejections, and are sufficient to overcome the rejections. However, these remarks are not intended to, nor need they, comprehensively address each and every reason for the patentability of the claimed subject matter over the applied prior art. Accordingly, Applicant does not contend that the claims are patentable solely on the basis of the particular claim elements discussed above.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact the undersigned, at the telephone number below.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 08-0750 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

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ABSTRACT OF THE DISCLOSURE

Example embodiments disclose a method and apparatus for adjusting suction of a cutting machine when cutting is performed with the cutting machine in which a sheet material is sucked and held on a table and a cutting blade is moved with respect to the table based on preset data while an already-cut portion is covered with a sealing sheet so as to prevent leakage from increasing, and as cutting progresses, confirming an extent of leakage from an already-cut portion, and adjusting a suction state so as to compensate for reduction, due to the leakage, in a holding force on the sheet material on the table, and in consideration of a covered state with the sealing sheet.